

1. "Best Practices"
 - ◆ Millions of patients treated by known substandard practices
 - ◆ Do at least what we know
 - ◆ Limit variability
2. Bay Care "Best Practices"
 - ◆ Critical Care coverage for the Intensive Care Unit
3. Intensive Care Unit
 - ◆ ICU – "a consolidated area of a hospital where patients with acutely life-threatening illnesses or injuries receive specialized medical and nursing care..."
 - ◆ Created in the 1960s out of a need to focus the attention of physicians, nursing staff and high technology on the hospital's sickest patients.
 - ◆ Wide disparity between different Hospital's ICU operations
 - ◆ Wide disparity between different ICU operations in the same hospital
4. Intensive Care Unit
 - ◆ Quality of care in hospital ICUs is strongly influenced by
 - 1) whether specialty trained intensivists are providing care
 - 2) staff organization in the ICU
5. ICU Staffing Models
 - ◆ Open Unit
 - Patients are cared for by broad range of physicians who
 - ◆ concurrently have responsibilities outside the ICU
 - ◆ maintain no/limited special credentials or training
 - ◆ tremendous variability in patient care
 - ◆ tremendous variability in staff education
 - Intensivists consulted on an as needed basis



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- ♦ consults usually reactive to a disaster
- ♦ proactive management limited

♦ Closed Unit

- All ICU patient care is under the direction of the ICU physician
 - ♦ reduced variability in patient care
 - ♦ reduced variability in staff education
 - ♦ pro active management of critically ill

6. Open System

♦ Pros

- Physician Autonomy
- Patient / family continuity

♦ Cons

- Diluted expertise
- Increased patient mortality
- Increased length of patient stays

7. Closed System

♦ Pros

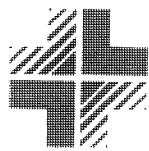
- Decreased Mortality
- Decreased length of stay
- Retained physician skills
- Staff familiarity

♦ Cons

- Loss of physician autonomy
- Politics
- Difficulty w/ compensation
- Government regulation

8. Semi-Closed System

- ♦ All patients admitted to ICU are consulted on by ICU physicians



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- Offer expertise in areas of mechanical ventilation, nutrition, infectious disease, hemodynamic monitoring, rehabilitation, and disease prevention among others.
- Identify current problems and potential complications
- ◆ Primary physicians retain order writing privileges
 - Specialty interests and protocols are maintained
 - Physician autonomy is respected

9. "Closed" ICU Model

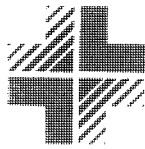
- ◆ Pronovost PJ, et al. Association between ICU physicians staffing and outcomes: a systematic review. Crit Care Med 1999.27(12) Supp. A43.
- ◆ With higher level of intensivist involvement:
 - 10/12 studies demonstrate a ↓ in in-hospital mortality (30-50% reduction)
 - 6/6 demonstrate ↓ in ICU mortality (33-58% reduction)
- ◆ Conclusion: Studies of the impact of intensivists demonstrate a consistent finding of decreased mortality with ↑ intensivist involvement.

10. "Closed" ICU Model

- ◆ Pronovost PJ, et al. Organizational characteristics of ICUs related to outcomes of abdominal aortic surgery. JAMA 1999, 281(14):1310-7.
- ◆ NOT having daily ICU physician rounds was associated with:
 - 3-fold ↑ in in-hospital mortality
 - ↑ risk of cardiac arrest, ARF, septicemia, platelet transfusion, and reintubation
 - ↑ resource utilization (cost)

11. "Closed" ICU Model

- ◆ Young MP. Potential reduction in mortality rates using an intensivist model to manage ICUs. EFF Clin Pract. 2000, 3(6):284-9.



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- Review of 9 studies: "Relative reductions in mortality rates associated with intensivists-model ICUs ranged from 15%-60%."
- ♦ Dimick JB, et al. Crit Care Med. 2001 29(4)904-5.
 - "Having daily rounds by an ICU physician is associated with shorter lengths of stay, lower hospital cost, and decreased frequency of postoperative complications."

12. Semi-Closed System

- ♦ All patients admitted to ICU are consulted on by ICU physicians
 - Offer expertise in areas of mechanical ventilation, nutrition, infectious disease, hemodynamic monitoring, rehabilitation, and disease prevention among others.
 - Identify current problems and potential complications
- ♦ Primary physicians retain order writing privileges
 - Specialty interests and protocols are maintained
 - Physician autonomy is respected

13. Semi-Closed System

- ♦ All patients admitted to ICU are consulted on by Critical Care Service
- ♦ Critical care service will round on all ICU patients daily.
 - Critical Care is primary provider for critically ill
 - Follow peripherally for observational patients